

Middle-Class Education.

II.

WEST OF ENGLAND

EXAMINATION PAPERS.

JUNE, 1857.

WITH THE

AWARD OF THE EXAMINERS,

AND

THE LOCAL ARRANGEMENTS FOR THE EXHIBITION.

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C O N T E N T S.



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NOTICE.—A Further Report on the Exeter Examination, drawn up by
Mr. TEMPLE, will appear shortly.

INTRODUCTION.

THE Examination Papers used at Exeter in June last are now published, partly for the satisfaction of those who are locally interested, partly as a basis on which to collect information for future examinations. It will probably strike most persons at first sight that the questions cover too much ground. To obviate this objection, the circumstances of the examination should be explained.

One hundred and twenty candidates entered their names, and a hundred and seven actually assembled at Exeter. They came from schools of various kinds—from grammar-schools and commercial schools; and two little fellows, from a National school, walked twenty miles in order to be present. Some of the candidates had left school for some time, and had been carrying on their own studies. The employments for which the youths were destined were connected with the various branches of agriculture, commerce, and the arts, and the courses of education they had pursued were widely different. It was necessary to provide for all these varieties, and at the same time to detain the candidates for the shortest possible period at the place of assembly.

The scheme was not publicly proposed until last Christmas; and the first step taken was to address a letter to the master of every commercial school in Devonshire, and to some of the masters in the adjacent counties,* requesting information as to the course of education pursued, and the books used in their respective schools. The opinions of some intelligent parents in the middle ranks, as to the kind of knowledge required in business, were also ascertained.

* Recourse was had to a printed list for Devonshire; no similar list for Cornwall and Somerset could be found.

Notices, drawn up with a view to satisfy the reasonable expectations of both these classes of persons, were issued in February. The Board of Examiners was not constituted till March, and on the 14th of that month the final notice was issued. The examiners, therefore, were not responsible for the general outline of the examination, but only for the mode of carrying it into effect.

The subjects of examination were arranged under four heads or departments, designated respectively—

- A. Religious Knowledge.
- B. Language and History.
- C. Arithmetic and Mathematics.
- D. Practical Science and Art.

A preliminary examination in reading, writing, and arithmetic, was to be passed by all candidates without exception; an examination on religious knowledge by all whose parents did not object, and one hundred candidates were in fact examined in this subject. All candidates for prizes in Department D were required to pass creditably either in Department B, or in Department C. It was found impossible to devote less than one entire day to each department.

The general arrangement was to devote three hours in the forenoon to an elementary or general paper, and to allow four hours in the afternoon for more advanced or more detailed knowledge. To meet the case of the junior candidates, a second elementary paper was prepared for the afternoon (in A and B), for which two hours were allotted; leaving two hours for one of the more advanced subjects. In C this arrangement was unnecessary, on account of the mixed character of the questions in the two papers of Pure and Mixed Mathematics. On the fourth day the candidates in Department D were much fewer than on the three former days. The morning examination was rather general than elementary. In the afternoon the candidates were allowed to choose one of three papers, prepared with a special reference to Agriculture, Commerce, and the Arts.

The subjects of Drawing and Music were also assigned to the

fourth day, being, for the most part, selected by those candidates who declined the higher or special examination on that day; some candidates were examined in drawing on previous afternoons on which they were disengaged.

It may be remarked generally, that a much larger number of questions was set than any one candidate was expected to answer, and that questions suited to the younger and older candidates were included in the same paper. This arrangement was adopted in order to give to every candidate the widest range of selection, and the least occasion for subsequent complaint. Considering the various circumstances of the youths, no other plan presented so little prospect of inconvenience, and no inconvenience did in fact result from the course adopted.

The Committee are bound to acknowledge their great obligations to Mr. Temple and Mr. Bowstead for the labour which they undertook in arranging the various examination papers, and collecting and revising the final results. They were also indebted to Mr. Hayward, Surveyor of County Buildings in Devon; Mr. Wigzell, Master of the Exeter School of Art; and to Dr. Miller, for valuable suggestions and assistance before and during the examination.

The Notices to Competitors, defining the nature of the examination, and referring to suitable books, together with other documents, relative to the Middle Class Examinations at the Universities, are to be found in a pamphlet entitled, "Middle Class Education: West of England Examination, and Prizes, &c. By T. D. Acland. Published by Ridgway, price 1s."

Some Extracts from the Notices are here appended, in order to show the relative bearing of the different parts of the examination.

EXTRACTS FROM NOTICE I.

Preliminary Examination.—All Candidates will be examined in writing from dictation, in the four First Rules of Arithmetic, and (if time permits) in reading aloud, before they are admitted to compete for any of the Prizes.

Competitive Examination.—Each Candidate will be required to pass an

Elementary Examination in Religious Knowledge, or to produce a letter from his Parent or Guardian declining such Examination on his behalf, and enclosing a Certificate, duly filled up, of which the form will be supplied by the Secretary.

All Candidates for a Prize in Department D must have received a Certificate of Competency from the Examiners in Department B, or in Department C, before their answers in Department D can be looked over.

EXTRACTS FROM NOTICE II.

Preliminary Examination.—This is merely intended to discover palpable deficiency in the rudiments, should it unexpectedly exist, in order to save any Candidate who may be so deficient, from incurring, with no chance of success, needless expense.

Elementary Examination in each Department.—This is distinct from the preliminary examination. The value to be attached to the questions in this part of the examination will be so high, that completeness and accuracy in the answers will secure, at least to boys in the junior division, a high position in the class list.

Higher or Special Examination in each Department.—In every case more subjects are included under this head than any one Candidate is expected to be examined in. In order to discourage superficial knowledge, it has been decided that Candidates must gain a certain fixed number of marks on each subject, or the marks gained on that subject will not be reckoned in their favour. It will therefore be better to answer on one or two subjects completely, than to answer imperfectly on several.

In every Department a certain number of marks must be gained in the Elementary Examination before the answers to questions in the higher or Special Examination in the same Department can be looked at.

In the case of Department D (Science and Art) a certain minimum standard must have previously been attained either in Department B (Language and History), or in Department C (Mathematics); the Candidate selecting whichever of those two (B or C) he prefers.

In the case of Department A, provided there has been no failure in the Preliminary Examination, a prize may be gained without reference to any other Department. It cannot be doubted that the diligent study of the subjects included in this Department will cultivate the mind, and that youths who have no time for secular study should be encouraged to improve themselves in religious knowledge.

It may save trouble to Candidates to point out the effect of the above regulations on the Examination in each Department.

All Candidates in A will have to pass—

1. The Preliminary Examination.
2. The Elementary Examination in A.

All Candidates in B or C will have to pass—

1. The Preliminary Examination.
2. The Elementary Examination in A (unless declined under Rule 5).
3. The Elementary Examination in B or C, as the case may be.

N.B. No Candidate is obliged to be examined both in B and C, unless he wishes to compete for Prizes in both those Departments.

All Candidates in D will have to pass—

1. The Preliminary Examination.
2. The Elementary Examination in A (unless declined under Rule 5).
3. The Elementary Examination in B or C.
4. The Elementary Examination in D.

Except as above provided, Candidates are at liberty to select any one of the Departments of the Examination.

LIST OF THE EXAMINERS.

REV. F. TEMPLE, late Fellow of Balliol College, Oxford, H. M. Inspector of Church of England Training Schools.

J. BOWSTEAD, Esq., late Fellow of Pembroke College, Cambridge, H. M. Inspector of British and Protestant Dissenting Schools.

REV. CHANCELLOR HARINGTON, Hon. Secretary of Diocesan Board of Education.

SIR STAFFORD HENRY NORTHCOTE, Bart.

REV. MORGAN COWIE, formerly Principal of the College of Engineers, Putney.

REV. ROBERT WALKER, Reader in Experimental Philosophy, Oxford.

REV. J. S. HENSLOW, Professor of Botany, Cambridge.

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G. RICHMOND, Esq.

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EXAMINATION PAPERS USED AT EXETER,

JUNE, 1857.

PRELIMINARY EXAMINATION.

I. Passage chosen to be written from dictation :—

A conjurer and a tailor once happened to converse together. "Alas!" cries the tailor, "what an unhappy poor creature am I! if people take it into their heads to live without clothes, I am undone; I have no other trade to have recourse to." "Indeed, friend, I pity you sincerely," replies the conjurer; "but, thank Heaven! things are not quite so bad with me; if one trick should fail, I have a hundred tricks more for them yet." A famine overspread the land: the tailor made a shift to live, but the conjurer was obliged to beg from the tailor, whose calling he had despised.

II. Questions in Arithmetic dictated :—

- (1). Subtract 37 from 10021.
- (2). Subtract $9\frac{1}{2}d.$ from 1000*l.* 0*s.* 0*4d.*
- (3). Multiply 36*l.* 1*s.* $7\frac{1}{2}d.$ by 128.
- (4). Divide 25*l.* 0*s.* 6*d.* by 143.

III. A passage from the Spectator was selected for an exercise in reading. The candidates were called out one by one, in order, and, after reading the passage, were asked a few questions in the grammar of it.

DEPARTMENT A.

ELEMENTARY PAPER I.—(TUESDAY MORNING.)

1. What was the sin committed by Adam and Eve? what their punishment? and what the first promise of redemption?
2. Name the chief persons of the posterity of Seth mentioned in the Scriptures.
3. What special permission, what special command, and what special promise were given to Noah and his descendants?
4. Whence did Abraham come when called by God, whither did he go, and where did he finally settle?

5. Trace the pedigree of Joseph from Abraham. What was the cause of his being in Egypt, and what the cause of his advancement there?
-
6. With what event does St. Mark open his Gospel, and what prophecies does he declare to have been thereby fulfilled?
 7. The Scribes and Pharisees found fault with our Lord for mixing with Publicans and sinners. How did He answer them?
 8. On what occasions did our Lord restore dead persons to life, and with what differences in each case?
 9. Who were the Sadducees, Pharisees, and Herodians?
 10. Relate and explain any one of our Lord's Parables as recorded by St. Mark.
-
11. What is meant by "Common Prayer," and from what other kinds of Prayer is it distinguished? Are any blessings promised in Holy Scripture to the common prayer of Christians?
 12. What does the Exhortation at the beginning of the Morning Service state to be the purposes for which we assemble?
 13. Explain the following phrases:—
 - "Rend your hearts, and not your garments."
 - "O Lord, correct me, but with judgment."
 - "The Scripture moveth us in sundry places."
 - "Lighten our darkness, we beseech thee, O Lord."
 State in what part of the Services each occurs.
 14. On what occasions and by whom were the Hymns Benedictus (Blessed be the Lord) and Nunc Dimittis (Lord, now lettest thou thy servant) respectively spoken?
 15. Write out the fifth and eighth Commandments, and after each write out the parts of the Duty towards my Neighbour taken from it.
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16. Draw a map of Palestine showing the Sea-coast, the Jordan, the Sea of Galilee, the Dead Sea, and the towns of Sidon, Hebron, Bethel, Jericho, and Jerusalem.
 17. Draw a map of Palestine, and mark where the following nations dwelt: the Philistines, Rephaims, Horites, and Amorites.
 18. Describe in words, or draw a map to show, the situation of Nazareth, Capernaum, Decapolis, Bethsaida, and Cæsarea Philippi.
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A.

ELEMENTARY PAPER II.—(TUESDAY AFTERNOON.)

1. What was the sin of the world before the Flood? Is there any allusion to it in the command given to Noah immediately after the Flood?
 2. How came men to speak different languages after the Flood?
 3. In what respects was Isaac a type of Christ?
 4. What did Jacob before his death prophesy concerning Levi and Judah, and how was each prophecy fulfilled?
 5. Why and when was Jacob called Israel? Did any other of the Patriarchs receive a new name? Mention any places in Palestine named from events which occurred at them.
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6. Relate as nearly as you can in the words of St. Mark the miracle of the Raising of Jairus's daughter. State what occurred on the way to Jairus's house.
 7. Write out the account of the Transfiguration of our Lord. Which of the Apostles were present at it? Is it ever alluded to afterwards in the Bible?
 8. On what occasion did our Lord successively put all his adversaries to silence, and in what manner?
 9. On what occasions and for what reasons did the Pharisees find fault with our Lord or his disciples?
 10. What instances are recorded of the disciples disputing among themselves, and what did our Lord say concerning these disputes?
-
11. What is the meaning of the word Litany? Into how many parts may our Litany be divided? On what days and at what time is it ordered to be used, and what Prayer is substituted for it at other times?
 12. Explain the following sentences, and state where each occurs:—
 - “O Lord, deal not with us after our sins.”
 - “Neither reward us after our iniquities.”
 - “There is no health in us.”
 - “As in the provocation, and as in the day of temptation in the wilderness.”
 - “In knowledge of whom standeth our eternal life.”
 13. Who was St. Chrysostom? Write out the prayer which is called by his name. What are the two petitions in which it sums up all our desires?

14. What is the explanation given in the Catechism of the words—
“Give us this day our daily bread”? What is meant by
“ghostly dangers,” and what by our “ghostly enemy”?
 15. Explain what is meant by “the works of the devil,” “the
pomp and vanities of this wicked world,” and “the sinful
lusts of the flesh.”
 16. Give from the Catechism a brief account of the privileges of
Christians.
 17. What are the Creeds of the Church of England? What are the
three great truths taught in the Apostles’ Creed, and how
may they be proved from Scripture?
-
18. Give the situation of the following places and the meanings of
their names: Jehovah-jireh, Beersheba, Galeed, Mahanaim,
Peniel.
 19. Draw a map to show the political divisions of Palestine and
the nations by which it was bounded in our Lord’s time.
 20. Draw a plan of Jerusalem, showing the Mount of Olives, the
Temple, and the Brook Kedron.
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A.

HIGHER PAPER.—(TUESDAY AFTERNOON.)

This paper is divided into four sections. You may not answer
questions in more than two sections.

SECTION I.

1. Who was appointed to lead the people of Israel into the Promised
Land? and why were not Moses and Aaron permitted to
bring them in?
2. What three nations did the Israelites defeat just before crossing
the Jordan, and at what places were the decisive battles
fought?
3. What was the first city which the Israelites took in Canaan, and
in what way did they take it?
4. Who governed the people of Israel after Joshua’s death, and
how long did that form of government continue?
5. Narrate what is told us of Gideon. Compare his character with
that of Jephtha.

6. Who was the first king of Israel? What was the date of his accession, and what were the circumstances in which he was chosen?
7. Which of the kings of Judah were eminent for piety? Give a short account of any one of them.
8. Give an account of the principal Fasts appointed under the Jewish dispensation.
9. Name the chief Types of the Messiah.
10. Give the chief prophecies relating to our Lord.
11. Give instances from the Old Testament of manly energetic characters. Point out their readiness to acknowledge God, especially in their temporal concerns.

SECTION II.

1. Who is the author of the Acts of the Apostles? Give reasons for your answer.
2. "Ye shall be witnesses unto me both in Jerusalem and in all Judæa and in Samaria and unto the uttermost part of the earth." Show that the history recorded in the Acts of the Apostles is an exact fulfilment of these words.
3. Relate the miracle of the Day of Pentecost. With what similar miracle in the Old Testament may it be contrasted?
4. Give some account of the planting of the Christian faith at one of the following places: Antioch in Syria, Lystra, Philippi, Corinth, Ephesus.
5. Give a chronological list of St. Paul's Epistles, with the time and place at which each was written.
6. Where are the following places, and what events are connected with each of them: Thessalonica, Paphos, Troas, Miletus, Puteoli, Cenchrea?
7. Give some account of two of the following persons: Barnabas, Timothy, Cornelius, Apollos, Aquila, Gallio, Stephen, Felix.
8. Explain the words in italics in the following phrases:—
 - "When Gallio was *deputy* of Achaia."
 - "There arose no small stir about *that way*."
 - "Brought up in *this city* at the feet of Gamaliel."
 - "We took up our *carriages*."
 - "I appeal unto *Cæsar*."
9. Arrange the Books of the New Testament in the order in which they were probably written.

SECTION III.

1. Name the principal Fathers of the first three centuries, and give an account of the life and writings of any one of them in each century.

2. What was the difference between the Eastern and Western Churches in regard to the celebration of Easter? Name the eminent persons engaged in the controversy.
3. What became of the Christians during the invasion of Judæa by the Romans?
4. How many persecutions of the Church do Christian historians enumerate, and which were the most severe?
5. What testimony is borne by Pliny and other Heathen writers to the morality and piety of the early Christians?
6. Who was the first Christian Emperor, and of what country was he a native?
7. What evidence is there of the existence of an early British Church?
8. Into how many classes were Christians divided in the primitive Church, and how were they arranged during the hours of public worship?
9. What was the purpose and what the result of the Council of Nicæa?

SECTION IV.

1. Mention any circumstances in the 15th century which prepared the way for the Reformation in the 16th.
2. Give an account of the early and academical life of Archbishop Cranmer.
3. Which was the first English Translation of the Bible? What translations appeared in England during the first half of the 16th century?
4. When was the Book of Common Prayer first drawn up? What revisions has it undergone?
5. When was the Church Catechism drawn up? and by whom? With what service was it connected?
6. Give a brief history of the composition of the 39 Articles.
7. What were the grounds of the Marian persecution, and under what circumstances were severities practised in the reign of Elizabeth?
8. Name the most eminent Divines who flourished during the last half of the 16th century.

DEPARTMENT B.

ELEMENTARY PAPER I.—(WEDNESDAY MORNING.)

1. Analyse the following passage, and fully parse the words printed in italics :—

“ I saw when at *his* word the formless *mass*,
 The world’s material *mould*, *came* to a heap ;
 Confusion heard his voice ; and wild uproar
 Stood *ruled* ; stood vast infinitude *confined*.”

2. Give other instances of the affix *less*. What affixes and what prefixes are used in English to express increase or diminution ?
3. In what different ways do English nouns form the plural ? Give three instances of each.
4. Define a pronoun. For what does the pronoun “ it ” stand in the sentence, “ It is necessary to be careful ” ?
5. Give instances of words which are sometimes one part of speech and sometimes another, and point out how you determine, in a given case, under what part of speech any such word falls.
6. Parse fully the words in italics in the following sentences :—

“ Go *down* that lane.”
 “ Put *down* that book.”
 “ I am quite *well*.”
 “ It is not *worth sixpence*.”
 “ The stars *above* are silent.”
 “ He prevented me *from* doing it.”

-
7. Give a list of the sovereigns of England, with the dates of their accession, from the Conquest to the present time.
 8. By what title was the Crown held by Henry IV., Henry VII., James I., and George I. ?
 9. What was the nature of the dispute between Becket and Henry II., and how did it terminate ?
 10. What was the cause of the war with France in the reign of Edward III., and what were the leading incidents of that war ?
 11. What were the chief events in the reign of Charles II. ?
 12. In whose reign respectively did each of these men live : Wolfe, Nelson, Marlborough, Blake, Harry Hotspur, Sir Thomas More, Wicliff, Simon de Montfort, Laud, Sir Walter Raleigh, Milton, Lord Clive ?

13. Draw a map either of Devonshire, or of Cornwall, or of Somerset.
 14. With what countries and in what articles do the following sea-ports chiefly trade : Hull, Southampton, Plymouth, Bristol, Liverpool, Glasgow?
 15. What are the chief manufactures of Birmingham, Leeds, Manchester, and Sheffield?
 16. Describe the situation and chief products of Canada, or the Cape of Good Hope.
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GEOGRAPHY.

SUPPLEMENTARY TO THE ELEMENTARY PAPER I.

1. Draw a map of Spain and Portugal, inserting the mountains and rivers, and the towns of Madrid, Seville, Cadiz, Barcelona, Lisbon, and Oporto.
 2. Describe the course of the Danube; mention the cities on its banks, and state the facilities it affords for trade.
 3. Mention any remarkable instances in which the geographical situation of any country has much affected its history.
 4. Give some account of the trade of Russia, and mention the parts of the world to which we should have recourse for supplying the same articles of commerce if we could not get them from thence.
 5. Which is the best frontier for a country—a chain of mountains, a desert, or a large river? Give instances of each, to illustrate your answer.
 6. Enumerate the principal rivers in North America, and draw a map of the basin of any one of them.
 7. What large towns and the mouths of what rivers would you pass in a coasting voyage from Demerara to Peru?
 8. Give the political divisions of British India.
 9. Describe the size, shape, and situation of the islands of New Zealand.
 10. What countries would lie to the right and left of a voyager going by sea from Bombay to Suez?
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B.

ELEMENTARY PAPER II.—(WEDNESDAY AFTERNOON.)

Two hours allowed for this paper.

1. Analyse the following passage, and parse fully the words in italics:—

“ *Ere* sin could blight, or sorrow *fade*,
 Death came *with* friendly care ;
 The opening *bud* to Heaven *conveyed*,
 And bade it *blossom* there.”

2. Give a list of English words derived from the Latin *facio*, or its compounds.
 3. Define a Preposition. How do you distinguish, in parsing, between the uses of the word “with” in the two sentences—
 “ I saw a man with a sword.”
 “ I killed a man with a sword.”
 4. Give a list of English prefixes, distinguishing the Latin from the Saxon.
 5. Compose short sentences to show the difference in meaning and use between *invention* and *discovery*, between *pretend* and *dissemble*, between *skill* and *dexterity*, between *wisdom* and *knowledge*.
-
6. Mention any manufactures that have been introduced into this country by foreigners, and state the circumstances.
 7. What were the chief provisions of Magna Charta? How was it obtained?
 8. What were the chief battles in the Wars of the Roses? What was the effect of those wars upon England?
 9. About what time were the following inventions respectively made: Paper, Gunpowder, Printing, Window-glass, the Steam-engine?
 10. Give an account of the reign of Elizabeth.
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11. Give a list of the Market Towns in any one of the three Western Counties.
 12. Draw a map to show the course of any river in the three Western Counties, and mark on it all the towns that you can remember to be on its banks.
 13. What are the chief manufactures of Tiverton, Frome, and Yeovil? Whence do they get their raw materials?
 14. In a coasting voyage from Exeter to Bristol, what capes and what seaports would you pass?

B.

ENGLISH LITERATURE.—(WEDNESDAY AFTERNOON.)

Two hours allowed for this Paper.

This Paper is divided into five Sections. You may answer questions in the first Section, and in one, but not more than one, of the other four.

SECTION I.

1. From what languages has the English been derived? And what sort of words, speaking generally, come from each source?
2. Give instances of English words derived from Latin, Greek, Saxon, French, British, and German.
3. Give the etymology of "heavy," "stupid," "wise," "resemblance," "detail," "critical," "knowledge," "event," "translation."
4. Give a list of our greatest poets, in chronological order.
5. What are the most marked differences between English and Latin in the conjugation of verbs, and in the government of nouns?
6. In the sentence, "Give me that book," what reasons are there for calling the word *that* an adjective, and what for calling it a pronoun?
7. What parts of speech are the words in italics in the following sentences?—

"*Living* wisely is the best preparation for *dying* calmly."

"*Living* or *dying* we are the Lord's."

Express the same meaning in other parts of speech.

SECTION II.

SHAKESPEARE'S 'JULIUS CÆSAR.'

1. Paraphrase the following :—

" But 't is a common proof
That lowliness is young ambition's ladder,
Whereto the climber-upward turns his face :
But when he once attains the upmost round,
He then unto the ladder turns his back,
Looks in the clouds, scorning the base degrees
By which he did ascend. So Cæsar may.
Then, lest he may, prevent. And since the quarrel
Will bear no colour for the thing he is,
Fashion it thus ; that what he is, augmented,

Would run to these and these extremities :
 And therefore think him as a serpent's egg,
 Which hatch'd would, as his kind, grow mischievous :
 And kill him in the shell."

2. Point out the words of Latin origin.
3. Parse the words that, scorning, prevent, augmented, hatched, as, kind, mischievous.
4. Explain "a common proof," "base degrees," "will bear no colour."
5. Explain the allusions in the following :—
 - (a) "My ancestors did from the streets of Rome
 The Tarquin drive when he was called a king."
 - (b) "Be thou my witness, that against my will,
 As Pompey was, am I compelled to set
 Upon one battle all our liberties."
 - (c) "Even by the rule of that philosophy
 By which I did blame Cato for the death
 Which he did give himself."
6. Describe the course of the third Act, in which Cæsar is killed.
7. What were the different motives which induced Brutus and Cassius to kill Cæsar? Give reasons for your answer.
8. What part does Antony bear in the play?
9. What other plays did Shakespeare write on subjects taken from Roman history?
10. What writers of dramatic poetry immediately preceded Shakespeare, or were contemporary with him?

SECTION III.

MILTON'S 'PARADISE LOST.'

1. Paraphrase and analyse the following :—

"Thus Satan talking to his nearest mate,
 With head uplift above the wave, and eyes
 That sparkling blazed; his other parts besides
 Prone on the flood extended long and large
 Lay floating many a rood; in bulk as huge
 As whom the fables name of monstrous size
 Titanian or earth-born that warr'd on Jove."
2. Parse the words Satan, eyes, blazed, prone, extended, long, rood, as (huge), whom, Titanian.
3. Explain the allusions in the last two lines.
4. Explain the following :—

"Whose orb
 Through optic glass the Tuscan artist views
 At evening from the top of Fesolè."

5. Explain the following :—

“ When with fierce winds Orion arm’d
Hath vex’d the Red Sea coast, whose waves o’erthrew
Busiris and the Memphian chivalry.”

6. Paraphrase the following :—

“ For never since created man
Met such embodied force as named with these
Could merit more than that small infantry
Warr’d on by cranes.”

7. Translate into Latin “since created man.”

8. Give the etymology of the words extended, fable, monstrous, optie, chivalry, infantry, eourse, pursues, custody.

9. Explain the allusions in the following :—

“ As when a gryphon through the wilderness
With winged course o’er hill or mossy dale
Pursues the Arimaspians, who by stealth
Had from his wakeful custody purloin’d
The guarded gold.”

10. Write out briefly the argument of the Second Book.

11. Give a list of Milton’s other writings.

12. What was Milton’s age when he wrote the ‘Paradise Lost’? What other poets were then flourishing?

SECTION IV.

GOLDSMITH.

1. Paraphrase the following :—

“ But me not destined such delights to share,
My prime of life in wandering spent and care ;
Impelled with steps unceasing to pursue
Some fleeting good that mocks me with the view,
That, like the circle bounding earth and skies,
Allures from far, yet, as I follow, flies ;
My fortune leads to traverse realms alone,
And find no spot of all the world my own.”

2. Parse the words me, delights, prime, impelled, like, allures, far, alone, find.

3. Point out the words of Latin origin.

4. Analyse

“ But where to find that happiest spot below
Who can direct when all pretend to know ? ”

5. What is the leading idea of ‘The Traveller,’ and what is that of ‘The Deserted Village’? How far have the antieipations expressed in the latter been confirmed by facts?

6. Explain the allusions in the following :—

- (a) "Or onward where the rude Carinthian boor
Against the houseless stranger shuts the door."
- (b) "With food as well the peasant is supplied
On Idra's cliffs as Arno's shelvy side."
- (c) "Where lawns extend that scorn Arcadian pride,
And brighter streams than famed Hydaspes glide."
- (d) "Where wild Altama murmurs to their woe."
- (e) "On Torno's cliffs or Pambamarca's side."

7.—

"At her command the palace learnt to rise ;
Again the long-fallen column sought the skies ;
The canvas glowed beyond e'en nature warm ;
The pregnant quarry teemed with human form."

Name the chief architects, painters, and sculptors of modern Italy.

8. Give the etymology of spent, impelled, pursue, realm, pretend, stranger, nature, human.
9. Write out as nearly as you can recollect Goldsmith's description of the Village Preacher.
10. What men of note were among Goldsmith's acquaintances and friends ?
11. What are Goldsmith's most important prose works ?

SECTION V.

COWPER'S 'TASK.'

1. Paraphrase the following :—

"He that attends to his interior self,
That has a heart and keeps it, has a mind
That hungers and supplies it, and who seeks
A social, not a dissipated life,
Has business ; feels himself engaged to achieve
No unimportant though a silent task.
A life all turbulence and noise may seem
To him that leads it wise and to be praised ;
But wisdom is a pearl with most success
Sought in still water and beneath clear skies.
He that is ever occupied in storms,
Or dives not for it, or brings up instead,
Vainly industrious, a disgraceful prize."

2. Parse the words supplies, social, has, engaged, though, turbulence, wise, sought, instead, industrious.
3. Analyse the last sentence.
4. Write out the argument of 'The Sofa.'
5. Translate into Latin

"By ceaseless action all that is subsists."

6. Explain the allusions in the following, and state who the persons are whose names are mentioned :—

- (a) " Even the favoured isles
So lately found, although the constant sun
Cheer all their seasons with a grateful smile,
Can boast but little virtue."
- (b) " There touched by Reynolds a dull blank becomes
A lucid mirror, in which Nature sees
All her reflected features. Bacon there
Gives more than female beauty to a stone,
And Chatham's eloquence to marble lips."
- (c) " Is it a time to wrangle when the props
And pillars of our planet seem to fail,
And Nature with a dim and sickly eye
To wait the close of all?"
- (d) " They have fallen
Each in his field of glory : one in arms,
And one in council. Wolfe upon the lap
Of smiling victory that moment won,
And Chatham heartsick of his country's shame."
- (e) " And when I place thee in it, sighing say,
I knew at least one hare that had a friend."
7. What was the date at which Cowper wrote ' The Task,' and how old was he at the time? What is his own account of the manner in which he was induced to write it?
8. Write out, as nearly as you can, Cowper's description of the arrival of the Postman.
9. What comparison would you draw from Cowper's writings between the state of England at that time and now?
10. What other poets were contemporary with Cowper? Had he any acquaintance with them?

B.

LATIN.—(WEDNESDAY AFTERNOON.)

Two hours allowed for this paper.

This Paper is divided into four Sections. You may answer questions in the first Section, and in one, but not more than one, of the other three.

SECTION I.

1. Give the Latin for the nouns " head," " voice," " nest," " thing." Decline one of them.
2. Give the rules for the comparison of adjectives, and an example of each rule.

3. Deeline iste, quisque, and ego.
4. Quote the rule for the agreement of the Relative with the Antecedent. How is the case of the Relative determined?
5. Translate into Latin—
 - “ I saw him do it.”
 - “ I heard him say so.”
 - “ I am going home.”
 - “ It is the duty of all men both to work and to learn.”
6. Write the following sentence in Latin in as many ways as you can :—
 - “ Cæsar sent ambassadors to sue for peace.”
7. What were the successive forms of government at Rome, and at what date did each begin and end?
8. How many wars did Rome wage with Carthage? Who were the most famous Generals engaged on each side?
9. What men composed the first Triumvirate, and what the second? What finally became of each of them?
10. What was a Patrician, a Censor, a Consul, a Dictator, a Tribune of the People?

SECTION II.

VIRGIL.

1. Translate

“ Semina vidi equidem multos medicare serentes
 Et nitro prius et nigrâ perfundere amurcâ,
 Grandior ut fœtus siliquis fallacibus esset ;
 Et quamvis igni exiguo properata maderent,
 Vidi lecta diu et multo spectata labore
 Degenerare tamen, ni vis humana quotannis
 Maxima quæque manu legeret ; sic omnia fatis
 In pejus ruere ac retro sublapsa referri.”

2. Parse semina, perfundere, siliquis, leeta, manu, sublapsa.

3. Translate and explain

“ Apparet liquido sublimis in aere Nisus,
 Et pro purpureo pœnas dat Scylla capillo.”

4. Translate

“ Vix ea fatus erat, cùm circumfusa repente
 Scindit se nubes, et in æthera purgat apertum.
 Restitit Æneas clarâque in luce refulsit
 Os humerosque Deo similis ; namque ipsa decoram
 Cæsariem nato genitrix lumenque iuventæ
 Purpureum et lætos oculis afflârât honores.”

5. Give the rules for the government of humeros, Deo, Cæsariem, iuventæ, oculis.

6. Translate and explain—

“ Ipsa Paphum sublimis abit, sedesque revisit
 Læta suas; ubi templum illi centumque Sabæo
 Thure calent aræ sertisque recentibus hialant.”

7. Scan these three lines.

SECTION III.

CÆSAR.

1. Translate

“ Dum hæc in colloquio geruntur Cæsari nuntiatum est equites Ariovisti propius tumultum accidere, et ad nostros adequitare; lapides telaque in nostros conjicere. Cæsar loquendi finem fecit, seque ad suos recepit suisque imperavit, ne quod omnino telum in hostes rejicerent; nam etsi sine ullo periculo legionis delectæ cum equitatu prælium fore videbat, tamen committendum non putabat ut pulsus hostibus dici posset eos à se per fidem in colloquio circumventos. Posteaquam in vulgus elatum est quâ arrogantia in colloquio Ariovistus usus omni Galliâ Romanos interdixisset, impetumque in nostros ejus equites fecissent, eaque res colloquium diremisset, multo major alacritas, studiumque pugnandi majus exercitui injectum est.”

2. Parse geruntur, equites, loquendi, suis, rejicerent, pulsus, circumventos, usus, diremisset, exercitui.

3. What English words are derived from gero, accido, lapis, finis, hostis, rejicio, periculum, fides, impetus, injicio?

4. How many soldiers were there in a Roman legion in Cæsar's time, what were the titles of the officers, and how was the common soldier armed?

5. Translate

“ Quo prælio bellum Venetorum totiusque oræ maritimæ confectum est. Nam quum omnis juvenus omnes etiam gravioris ætatis in quibus aliquid consilii aut dignitatis fuit eo convenerant; tum navium quod ubique fuerat unum in locum coegerant; quibus amissis reliqui neque quo se reciperent neque quemadmodum oppida defenderent, habebant.”

6. Give the rules for the government of prælio, totius, consilii, navium, quibus.

7. Conjugate confectum est, coegerant, defenderent.

SECTION IV.

HORACE.

(By request of a Candidate.)

1. Translate

“ Illi robur et æs triplex
 Circa pectus erat, qui fragilem truci
 Commisit pelago ratem
 Primus, nec timuit præcipitem Africæ
 Decertantem Aquilonibus,
 Nec tristes Hyadas, nec rabiem Noti,
 Quo non arbiter Hadriæ
 Major, tollere seu ponere vult freta.”

2. Parse illi, æs, pelago, rabiem, quo, tollere.

3. Translate and explain

“Omnes eodem cogimur ; omnium
Versatur urnâ serius ocius
Sors exitura et nos in æternum
Exilium impositura cymbæ.”

4. Name the metre and scan the lines.

5. Translate

“Vester, Camænæ, vester in arduos
Tollor Sabinos ; seu mihi frigidum
Præneste, seu Tibur supinum,
Seu liquidæ placuere Baïæ :
Vestris amicum fontibus et choris
Non me Philippis versa acies retro,
Devota non extinxit arbor,
Nec Siculâ Palinurus undâ.”

6. Explain the allusions in the words Philippis, devota, arbor, Siculâ Palinurus undâ.

7. Parse (accidence and syntax) the words tollor, mihi, placuere, amicum, choris, Philippis, extinxit, undâ.

B.

FRENCH.—(WEDNESDAY AFTERNOON.)

Two hours allowed for this paper.

1. Translate into English as literally as possible—

Or, Sire, les ressources de la France sont grandes ; elles sont immenses ; des faits récents ont montré toute leur étendue. Il ne pourrait y avoir danger sérieux que si on venait à se persuader qu'elles sont illimitées et qu'elles sont suffisantes pour faire en un jour en France, et même à l'étranger ce qui doit être l'œuvre patiente du temps. Mais que les prudentes recommandations de Votre Majesté soient entendues, qu'on donne au trop-plein le temps nécessaire pour qu'il soit écoulé, le classement sera rapide et le niveau ne tardera pas à monter ; car encore une fois, la base est solide, les valeurs actuelles reposent en général sur des entreprises sérieuses, productives, et au fond le crédit a conservé tout son ressort. Les embarras, je ne saurais trop le répéter, Sire, ne pourraient venir que de l'exagération dont la spéculation, il faut l'espérer, saura se garantir.

2.—

Lorsqu'on rencontre la jeune reine de ce grand empire, traversant une foule respectueuse sans bassesse et bienveillante sans idolâtrie ; lorsqu'en la voyant monter les degrés du Parlement, entre la statue de Falkland et celle de Hampden, on réfléchit que depuis le jour où cette jeune femme a ceint la couronne de Richard Cœur-de-Lion et de Guillaume de Nassau, son gouvernement a osé pour le peuple plus que n'oserait peut-être aucune démocratie, et la vieille Angleterre doublé sa prospérité en avançant les nouveautés qu'arracheraient ailleurs des révolutions, on s'étonne et l'on demande : Qu'a-t-il donc fait, ce peuple, pour tant de bonheur ?

3. Translate into French—

Nature has given us two ears and one mouth, in order that we should hear much and say little.

Regard as a true friend the sincere man who apprises you of your faults ; not him who approves of all you say and all you do.

When I see the birds forming their nests with so much art, I ask what master has taught them mathematics and architecture.

4. Give the gender and meaning of the following words:—

- | | |
|-------------|---------------|
| 1. demeure. | 6. peur. |
| 2. tissu. | 7. avis. |
| 3. bête. | 8. auberge. |
| 4. abrégé. | 9. achat. |
| 5. état. | 10. mensonge. |

5. Give the passive participle of the verbs—

- | | |
|---------------|-------------|
| 1. recevoir. | 4. mettre. |
| 2. tenir. | 5. couvrir. |
| 3. connaître. | 6. boire. |

6. Translate the following letter into French and put a proper beginning and close to it.

We had beautiful weather for the agricultural show at Newton.

The number and variety of animals gave me a good opportunity of executing your commission. I bought a Devon bull and a lot of Leicester sheep for you, which I hope will please you. I shall despatch them by the steamer from Southampton next week.

The great attraction to visitors was the Steam Plough, which succeeded admirably, performing seven acres a-day with ease.

DEPARTMENT C.

ELEMENTARY PAPER.—(THURSDAY MORNING.)

1. Add nine thousand and four to twenty-three thousand seven hundred and five, and subtract the answer from 40,000.
2. If an orchard contain 78 apple-trees, and each tree produce on an average eleven hundred and six apples, what is the whole number of apples in the orchard?
3. A dealer buys 157 head of cattle for 2014*l.*; how much a head do they cost him?
4. Find the cost of 2247 articles, at 1*l.* 16*s.* 4½*d.* a piece.
5. A farm consists of 23 fields, of which 7 measure, on the average, 13 a. 3 r. 17 p. apiece; 8 others measure 9 a. 0 r. 35 p. each; and the rest 6 a. 1 r. 8 p. each: what is the acreage of the farm?
6. Reckoning each furrow as 9 inches in breadth, how far will a ploughman walk in ploughing an acre of land?
7. Calculate the cost of wintering a bullock in a straw-yard for 24 weeks, allowing him 2½ lb. of oil-cake daily, and accepting the manure made as an equivalent for the straw consumed, the cake being assumed to cost 11*l.* per ton.
8. A bankrupt's debts are 4976*l.*, and he is able to pay 11*s.* 8½*d.* in the pound: what are his effects worth?
9. A gentleman has a poor meadow that produces him annually about $\frac{3}{4}$ ton of hay per acre, and he is advised to convert it into a water-meadow, at a cost of 12*l.* 10*s.* per acre: what must be the produce of hay per acre, *after* the improvement, in order that it may pay the owner ten per cent. upon his outlay; supposing the hay to be worth 3*l.* per ton on an average of years?
10. If I give 37*l.* for a load of hay weighing $17\frac{3}{8}$ cwt., what should I pay for a whole rick weighing 27½ tons?
11. If 7 horses carry 80 tons of manure a distance of 1½ mile in 3 days of 10 hours each, how many days of 7 hours each will be occupied in carting a heap of 29 tons to a distance of 725 yards with 4 horses?
12. Calculate the rates on a rental of 263*l.* 10*s.* at 2*s.* 3*d.* in the pound, the rateable value being two-thirds of the actual value.
13. In a farm of 384 acres, $\frac{5}{6}$ ths are arable, $\frac{1}{4}\frac{7}{8}$ ths meadow, and the rest garden and orcharding: how many acres are there of each sort?

14. If railway shares be bought at 91*l.* 5*s.* per share, how must they be sold in order to gain exactly 4 per cent. by the transaction?
15. If the diameter of a penny-piece be 1.35 in., how many penny-pieces laid together will cover a distance of 100 yards?
16. In a parish of 725 people, .24 are children, .36 are men or boys, and the rest women or girls: how many are there of each class?
17. If the toll at a gate for one horse be 3*d.* and the toll be altered to 12 mils (1000 mils to the £), what will be the loss per cent. on the revenue derived from the horse-toll?

18. Add together $4a - 3b - 2c$, $6b - 3a - 7c$, and $5a - 4b + 5c$; and subtract the result from $a + b + c$.
19. Multiply $5x^2 - 6xy + y^2$ by $5y^2 + 6xy + x^2$.
20. Divide $a^4 - 2a^2b^2 + b^4$ by $a + b$.
21. What is meant by a co-efficient? Find the co-efficient of x^3 in the product of $x^4 - ax^3 + bx^2 - cx + d$ by $x^2 - ax + b$.
22. Divide $x^3 - \frac{5}{4}x^2 + \frac{11}{8}x - \frac{1}{2}$ by $x - \frac{1}{2}$, and find the value of the quotient when $x = \frac{1}{2}$.

23. When is one quantity said to be a measure of another? Show how to find the greatest common measure of 2 algebraical quantities, and extend the rule to 3 or more quantities.

Ex. Find the greatest common measure of $x^2 - 2x - 3$, $x^2 - 7x + 12$, and $x^2 - x - 6$.

24. Add together the fractions

$$\frac{1}{a^3(a+x)}, \quad \frac{1}{a^3(a-x)}, \quad \text{and} \quad \frac{2}{a^2(a^2+x^2)}.$$

25. Cube $4a^2b^{\frac{2m}{3}}c^{4n-2}$, and extract the square root of the result.
26. Extract the square root of

$$x^4 - 6x^3 + 10x^2 - 3x + \frac{1}{4}.$$

27. Solve the equations

$$(a). \quad x - 6 + 4(x - 3) = 7(x - 4).$$

$$(b). \quad \frac{a}{bx} - \frac{b}{ax} = \frac{a^3 - b^3}{a^2b^2}.$$

$$(c). \quad \frac{x+2}{7} - 2x = \frac{x-y}{4} - 8.$$

$$3x + 4 - 2y = \frac{2y - 3x}{3}.$$

28. At present A is just 3 times as old as his son B, but 16 years hence he will be only twice as old: what are the ages of A and B?

29. A labourer, having done a piece of work for a certain sum of money, finds that if he had done it in 2 days less he would have earned 6*d.* a day more; and if he had taken 3 days more to do it, his daily earnings would have been 6*d.* less: in what time did he do it, and what were his earnings?

30. Show how to describe an equilateral triangle upon a given finite straight line.

What figure would be formed by placing two equilateral triangles base to base?

31. Prove that any two *sides* of a triangle are together greater than the third side.

Is the same proposition true of the *angles* of a triangle? Give reasons for your answer.

32. Prove *geometrically* that, if a straight line be divided into any two parts, the squares of the whole line and of one of the parts are equal to twice the rectangle contained by the whole, and that part, together with the square of the other part.

33. Prove the last proposition *algebraically* also.

34. If a straight line touch a circle, the straight line drawn from the centre to the point of contact shall be perpendicular to the line touching the circle.

35. What is meant by the angle *in* a segment of a circle?

Prove that the angle in a semicircle is always a right angle.

36. Apply the last proposition to construct an oblong, of which the diagonal and one of the sides are given.

37. Give the practical method of testing whether an angle is a right angle or not.

C.

PURE MATHEMATICS.—(THURSDAY AFTERNOON.)

1. Extract the eube root of 1157·625.
2. Show that the product of any 3 consecutive numbers is divisible by 6.
3. What is a *prime* number? Show how to determine whether any given number is a prime number or not.
4. What year of the Christian era would this be, if six were the radix of our scale of notation instead of ten? On what scale would the present year be represented by 83*v* where *v* represents twelve?
5. Find the side of a square containing, in superficial measure, 763 feet 18 inches and 30 seconds.
6. Find the vulgar fraction equivalent to the circulating decimal 0·725656̄.
7. What is meant by *incommensurable* magnitudes? Explain the term with reference (1) to the side of a square and its diagonal, (2) with reference to the circumference and diameter of a circle.
8. Define *ratio* and *proportion*, and show that whenever 4 numbers are in proportion the product of the two extreme terms is equal to the product of the two mean terms. What use is made of this property in practical arithmetic?
9. Find the square root of $94 - 42\sqrt{5}$.
10. Enunciate the binomial theorem, and prove that the n^{th} term in the expansion of $(1 - x)^{-\frac{1}{2}}$: the n^{th} term of $(1 - x)^{-\frac{3}{2}} :: 1 : 2n - 1$.
11. Solve the equations
 - (α). $8x(a - x) = a(3a - 2x)$.
 - (β). $x^2 - 6 = xy$.
 - $y^2 - 11 = 50 - x^2$.
 - (γ). $\sqrt{a + x} + \sqrt{a - x} = \frac{12a}{5\sqrt{a + x}}$.
12. Find two numbers such that they shall bear to each other the ratio of 3 to 4, and their sum shall bear to the sum of their squares the ratio of 14 to 1.
13. Define a logarithm, and prove that the sum of the logarithms of two numbers is the logarithm of their product.
14. Having given $\log. 2 = 0\cdot30103$, find the logarithms of $\frac{5}{4}$, and of 25·6.

15. What numbers consisting of 2 digits have the property of being equal to 4 times the sum of those digits?
-

16. About a given circle describe a triangle equiangular to a given triangle.

17. Inscribe an equilateral and equiangular hexagon in a given circle.

18. Show, by a geometrical construction, how to find a mean proportional between two given straight lines.

What is the *algebraical* expression for the mean proportional between two given quantities?

19. Prove that similar triangles are to one another in the duplicate ratio of their homologous sides.

20. Show that, if an equilateral triangle be inscribed in a circle, the square of its side is equal to 3 times the square of the radius.

21. Show how to draw a line representing $\sqrt{5}$, when a line is given which represents a unit.

22. If a tangent CD at any point of a circle be terminated by AC , BD , tangents at the extremities of a diameter AB , and O be the centre of the circle, show that COD is a right angle.
-

23. Define the terms *sine* and *cosine* of an angle.

Express the cosine of the sum of two angles in terms of the sines and cosines of the angles themselves.

24. Prove the equation—

$$\text{Tan. } (45^\circ + A) - \text{Tan. } (45^\circ - A) = 2 \text{ Tan. } 2A.$$

25. Express the sine of any angle of a triangle in terms of the sides.

26. Having given two sides of a triangle and the included angle, show how to determine the other elements of the triangle in a form suited for logarithmic calculation.

27. Having given the equation $\text{Sin. } (\theta - a) = \text{cos. } (\theta + a)$, determine the angle θ .

28. Find $\text{sin. } \theta$ from the equation, $m \text{ sin. } 2\theta = n \text{ cos. } 2\theta + m$.

29. If the sides b and c of a triangle ABC be bisected by lines drawn from the angles B and C , these lines will meet in a point whose distance from the angle $A = \frac{1}{3} \sqrt{a^2 + 4bc \cos. A}$.

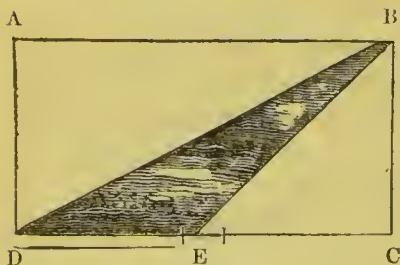
30. Show how by pegs and ropes to lay down a line equal to the distance between an accessible object (A), and an inaccessible object (B).
-

C.

APPLIED MATHEMATICS.—(THURSDAY AFTERNOON.)

1. Calculate the simple interest on 210*l.* 11*s.* 4*d.* for 90 days, at 3 per cent. per annum.
2. A debt of 300*l.* is left unpaid for 7 years: what will be the amount due at the end of that time, allowing compound interest at 5 per cent. per annum?
3. Having borrowed 300*l.*, I agree to pay it baek in quarterly instalments of 25*l.*, and to pay 2*d.* per *£.* per month for the use of the money unpaid. How much shall I have to pay baek altogether?
4. I wish to purchase an annuity of 30*l.* for a person whose age, according to the Tables, warrants an expectation that he may live for 15 years. Taking the rate of money at 4 per cent., what ought I to pay for it?
5. Find the logarithms of .003457 and of 34.57672, and the number corresponding to the logarithm 2.1342794.

6. Find the area of a triangle, the three sides of which are 56, 52, and 60 yards.



7. A B C D is a ten-acre field in the form of a parallelogram, E is a gate in the middle of one side, the triangle B D E is wet and requires draining: what is the extent of B D E, and what would be the cost of draining it at 3*l.* 15*s.* per acre?

8. If a field be thrown up into ridges, as in the figure, and if B C be 1 foot when A C is 4 feet; show that the *surface* is increased so that a field of 40 acres has now a *surface* of more than 41 acres?



9. The longest line that can be drawn from north to south in Devonshire is about 70 miles, and the longest from east to west about 73 miles: if the county were a parallelogram with these lines for its diagonals, what would its area be?
10. If the two sides of a triangular field be 30 and 40 poles, what must the third side be that the field may measure an acre?

11. The end-wall of a house is 28 feet 10 inches wide, and 55 feet 8 inches high to the roof; the gable rises 42 courses of bricks, 4 courses to 1 foot; up to 20 feet from the bottom the wall is $2\frac{1}{2}$ bricks thick, for the next 20 feet it is 2 bricks thick, thence to the roof it is $1\frac{1}{2}$ brick thick, and the gable is 1 brick thick: calculate the cost at 5*l*. 16*s*. per rod of brick-work.
 12. What is the rule for measuring round or unsquared timber? When the tree is tapering, what must be done? If the length be 24 feet, the girth at the thicker end 14 feet, and that at the smaller end 7 feet; what is the solid content?
 13. If a cubic foot of metal weigh 3 ewt. 2 qrs., and be worth 15 guineas a ton, what will be the cost of a mile of piping made out of it, with an 8-inch bore and a thickness of $\frac{3}{8}$ ths of an inch?
 14. I buy a grindstone 30 inches in diameter; but after it is worn down 2 inches, I come upon a flint which makes it useless: what proportion of the cost ought I to receive back from the seller?
-
15. Why do large wheels run more smoothly than small ones? Illustrate your answer by a diagram.
 16. How do nails hold? Under what mechanical power would you arrange them? What are the advantages of a screw nail over a common nail?
 17. How could you detect a false balance? And how could you ascertain the *real* weight with a false balance?
 18. If a man wants to raise 21 cwt. by means of his own weight (which is 14 stone) and a block pulley like Smeaton's or White's, how many distinct portions of rope must there be between the blocks?
 19. If I wanted to ascertain the quantity (in cubic inches) of material in a small porcelain figure, what would be the readiest way of doing it?
 20. On mixing 63 pints of sulphuric acid (sp. gr. 1.82) with 24 pints of water, one pint disappears: what is the specific gravity of the compound?
 21. I see the flash of a gun from a ship at sea, 8 seconds before I hear the report: how far is the ship from me?
 22. A boat's crew, which can row 8 miles an hour in still water, sets out to cross a river, and arrives in 3 quarters of an hour 2 miles below the landing-place: what is the rate of the current and the breadth of the river?
-

23. Explain what is meant by *meridional difference of latitude* as distinguished from *true difference of latitude*.
24. Prove the following proportions:—
distance : true difference of latitude : : radius
: : cosine of course,
meridional difference of latitude : difference of longitude
: : radius : tangent of course.
25. A ship from Brest (lat. $48^{\circ} 23'$ N., and long. $4^{\circ} 30'$ W.) sailed S.W. $\frac{1}{4}$ W. 238 miles. What were the latitude and longitude arrived at?
26. Describe the *log*, and the method of finding the distance sailed by means of it; and give a rough account of keeping the *dead reckoning*.
-
27. Show how roughly to strike a meridian line for setting up a horizontal sun-dial.
28. A person, being landed on a desert island without any instruments whatever, finds out that he is in the southern hemisphere. How does he arrive at this conclusion?
29. Explain why the sun does not rise daily in the same point of the horizon.
30. Why is Venus sometimes an evening star, and sometimes a morning star?
31. When clouds are moving rapidly in a bright moonlight, how would you prove to any one that the motion is that of the clouds, and not of the moon?
32. Explain parallax. How has it been shown that falling stars are at no great distance from the earth's surface?
-
33. What is the standard measure of time? What is the difference between *mean* time and railway time at Exeter, its longitude being $3^{\circ} 33'$ W.?
34. How do navigators find the latitude at sea?
35. What is the best method of finding the longitude? Describe it. In what way were eclipses of Jupiter's satellites useful in determining longitudes?
36. Describe the projections most in use for maps, and the advantages of each.
37. When a map has no mountains or hills drawn upon it, how can we tell the general direction of the higher lands and the general slope of the country?
-

DEPARTMENT D.

GENERAL PAPER.*—(FRIDAY MORNING.)

This Paper is divided into Five Sections. You are recommended not to answer questions out of more than three.

SECTION I.

1. On what causes does climate depend? What other countries on the world's surface have nearly the same climate as England?
2. What is the cause of wind? What are the prevailing winds in England? What winds would you be sure to meet with, and what might you possibly meet with, in a voyage from London round the Cape of Good Hope to Calcutta?
3. What is meant by zones of vegetation? How many such zones are there, and how is each characterised?
4. What great currents are there in the waters of the world? Point out any obvious uses of these currents.
5. What causes determine the quantity of rain in any district? State how much rain falls on the west, and how much on the east coast of England, and explain the reason of the difference.

SECTION II.

1. Explain the term inertia of matter.
2. What is capillary attraction? Give some familiar examples.
3. Define specific gravity. Find the specific gravity of the solution on the Examiner's table. (N.B. The Examiner will supply you with a specific gravity bottle and a pair of scales, and will tell you what is the weight of the bottle when empty and what when full of distilled water at 60°.)
4. How is the pressure of the air on a given surface most readily determined?
5. What different combinations can you make of three pulleys, and what will be the advantages of each?
6. Describe the balance, the steelyard, and the weighing machine.
7. Explain the construction of a common thermometer.

* The object of this part of the examination is to call attention to facts of general application in the material world, as a foundation for special experience. It will include practical construction of simple forms (without mathematical proof), common properties of bodies, and physical geography.—(*Extracted from Notice No. I.*)

8. Why does a blanket keep people warm?
9. A beam of light falls on a polished surface; how will it be affected at all angles of incidence?
10. Give a general explanation of the phenomenon of the rainbow.
11. Mention some of the most common and easy methods of making artificial magnets.
12. Describe the construction of a common electrical machine.

SECTION III.

1. What is the composition of the atmosphere?
2. How can you readily distinguish an organic substance from a mineral?
3. What are the essential characters which distinguish a chemical compound from a mere mechanical mixture?
4. What compounds do you get by burning the following substances in oxygen: charcoal, sulphur, phosphorus, iron?
5. When an animal or vegetable body dies what becomes of it, and how, chemically, is the life of beings made to depend on the death of other beings?
6. Give the composition of pure water by weight and volume.
7. Mention some substances containing nitrogen.
8. What is the best test for detecting the presence of lime in a solution?
- 9.*What would occur if the following mixtures were made?

Ca. O, C. O₂ + H. Cl.

Mn. O₂ + H. Cl.

- 10.*What are the general properties of acid and basic substances?
- 11.*The solution (A) may contain potash, soda, and ammonia. Find out whether all or which are present.
- 12.*The solution (B) may contain copper and iron. Which of these substances are in it?
- 13.*The solution (C) may contain sulphuric, hydrochloric, and nitric acids. Which does it contain?

(N. B. The Examiner will, if you ask him, supply you with the solutions and the requisite tests.)

SECTION IV.

1. Name the chief organic constituents of plants.
2. What conditions are essential to the germination of seeds?
3. Compare the nutritive properties of potato and flesh.

* Professor Voeleker is not responsible for these questions. See his Letter to the Secretary in 'The Education of the Farmer and of the Middle Classes in General.' By T. D. Acland, Esq. Ridgway.

4. Describe the smut-ball in wheat. How may it be readily propagated, and how successfully resisted?
5. In what respect does the root of a woody dicotyledon differ from the stem?
6. What are the parts commonly called "Creeping Roots" in such plants as coltsfoot, couch-grass, field thistle? Why would such weeds not be destroyed by hoeing them down?
7. Describe the leaves, inflorescence, and flowers of the three plants numbered 1, 2, 3.
(N.B. The Examiner will supply you with the plants.)
8. What are the principal characteristics by which reptiles are distinguished from other vertebrate animals?
9. Draw a diagram of the stomach of a sheep, and explain the peculiarities of the digestive organs in ruminants.
10. Describe the chief elements of the circulation in man, and state the course of the blood through them. Illustrate by diagrams.
11. How could you distinguish, if a man were severely wounded, whether or not an artery had been injured? And what should be done if one had?
12. What are the functions of the skin?
13. Sketch the fore-leg of a deer, horse, or sheep, and compare it part for part with the arm and hand of a man.
14. Show how the teeth of a sheep and those of a dog are respectively adapted to their purposes.
15. Describe the structure of the egg of the common fowl, before incubation.
16. What are the important parts of a gland?
17. What elements enter into the composition of fat, sugar, starch, water, white of egg, saliva, bone?

SECTION V.

1. Which are commonly called the three primary colours? How are tints and how are shades produced?
2. What is meant by complementary colours? What colours are complementary to each of the following: blue, purple, olive, russet?
3. In what proportions must yellow and purple combine to neutralise each other?
4. How do colours modify each other when put side by side?
5. What is the use of white or black edgings round ornamental forms on white or black grounds?

6. Show how to divide a parallelogram into similar parallelograms.
 7. Describe a hexagon on a given straight line.
 8. Give a practical method for drawing parallel lines without a parallel ruler.
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The Elementary Examination in department D differs in purpose from the corresponding examination in the other departments: it is not elementary in the sense of taking a lower standard, but only in the sense of being confined to general principles, and not touching on special applications.

The Questions will be such as can be answered after a study of Tate's Elementary Course of Natural and Experimental Philosophy, Wilson's Chemistry, Chambers's Physiology, Redgrave's Manual of Colour, Hughes's Physical Geography.

The chief purpose of the Special Examination in this department will be to ascertain whether those who have mastered the general principles belonging to this department can readily apply them to the use required in Agriculture, Manufactures, Commerce, or the Arts.

D.

(SPECIAL.) AGRICULTURE.—(FRIDAY AFTERNOON.)

1. Describe one or more of the instruments used in levelling, explaining the principle on which the construction depends.
 2. The base of a triangular field being 12 chains 20 links, one of the sides 8 chains 30 links, and the other 6 chains 70 links, give the size in acres, roods, and perches statute measure.
 3. In what way would you measure a round rick of corn of greater diameter at the eaves than at the base?
 4. What is the least fall that may safely be employed for an open surface-drain? Will the same be enough for an under-drain?
 5. What is meant by a water-table?
 6. Why will the same soil need draining, and yet be the better for irrigation?
 7. In what cases will a sandy soil require draining?
-
8. Why are the front wheels of a waggon made lower than the hind?
 9. Enumerate the parts of a cart-harness, and explain the use and mechanical action of each part.

10. If four horses are employed to draw a waggon, is it better to place them in one line, or two and two, or four abreast? Give reasons for your answer.
 11. Explain the construction of a common pump, and why it cannot be employed to raise water to a height greater than about 30 feet?
 12. Describe any shaker which you may have seen employed to remove the straw in a threshing-machine. What determines in which direction the straw shall travel?
 13. Describe the different parts of a common plough and the use of each part. What are the points included in good ploughing? How far does each depend on the plough, and how far on the ploughman?
 14. When bands of leather are used to transmit motion, what is the best form of wheel for them to pass over, concave or convex? Give reasons for your answer.
 15. Describe the slide-valve of a steam-engine and its action.
 16. What are the disadvantages of over-filling a steam-boiler?
-
17. In what combinations is lime found in nature, and in what forms is it used in agriculture?
 18. What are the properties and composition of ammonia? Mention some refuse manuring matters which owe their fertilising value chiefly to the presence of ammonia. How can the escape of ammonia be prevented from fermenting organic matters?
 19. What is the composition of bones? To what crops is bone-manure best applied, and in what forms?
 20. What is guano, and what are the distinguishing characteristics of genuine Peruvian guano?
 21. What are the chemical constituents of turnips?
 22. Explain the four-course rotation, and give reasons for the order in which the crops follow each other.
 23. What portable manures are best adapted for root-crops, and what for corn and grass? and why?
 24. Which of the following crops are most expensive to cultivate—carrots, mangolds, swedes, and turnips? and why?
 25. Why is autumn clearing of stubbles important, especially on heavy soils?
 26. On what does the nutritive value of the various substances used in feeding stock depend?
-

27. What are the chief agricultural products of the West of England?
 28. What are the limits of the cultivation of barley, wheat, maize, and rice?
 29. What agricultural products are exported from Australia, Jamaica, and Canada respectively?
 30. What is the great difference between the climate of the East and that of the West of England, and what effect has this difference on the produce of grass and corn?
 31. Is there any difference between the North of Great Britain and the South such as to affect the produce of root-crops?
 32. What breeds of cattle, sheep, or horses are commonly considered indigenous in the West of England?
 33. Mention the principal pure breeds of cattle and sheep, and explain what you mean by a pure breed.
 34. Mention the chief geological features of Somerset, Devon, or Cornwall, so far as they affect agriculture.
-

35. Post either by single or double entry the following items of a Memorandum Book.

	£.
Paid Mr. Williams for 15 quarters seed-wheat	48
Paid Mr. Brooks for a yearling bull	30
Received of Mr. Greening for 30 fat sheep	75
Received of Mr. Sharp for a milch cow	20
Paid Mr. James for a young horse	35
Paid labourers fortnight's wages	30

36. Explain the difference between single and double entry.
 37. Explain the words debtor, creditor, to, by, balance, stock.
 38. What is the use of the Ledger? How is it divided?
 39. What is the difference between the Waste-book and the Journal?
-

40. Why is a spade an article of value? and why is a silver spoon of more value than a spade?
 41. Why are some labourers paid higher than others?
 42. Mention some instances of the advantages of division of labour.
 43. If wheat falls to half its price, ought bread to fall in the same proportion?
 44. What is the effect upon prices if a new gold-mine is discovered?
-

PRINCIPLES OF HORTICULTURE.*

45. Explain how drainage affects the temperature of soil.
46. What ground temperature is requisite for the growth of ordinary vegetables and fruit trees, and what to ripen fruit?
47. What is the meaning of evaporation, radiation, and conduction of heat? Show what connection any of them have with the proper management of soil and with the treatment of plants.
48. Give rules for the watering of plants: explain the reasons of the rules. What other method, besides watering, can you adopt for keeping the soil moist?
49. How would you proceed practically to make and strike a cutting? Explain the reasons of the process.
50. Where is the sap of trees formed, in the root or in the leaves? Show how this bears on the formation of wood.
51. "The functions of *respiration*, *perspiration*, and *digestion*, are the offices of leaves:" explain each of these functions. What is the difference between the digestion of a plant and the digestion of an animal?
52. What natural agency do plants require besides moisture and warmth?
53. "The object of pruning is either to influence the production of flowers and fruit, or to augment the quantity of timber." Show how each of these objects is promoted by good pruning, and impeded by bad pruning, in the case of particular trees.
54. State how you would lay out a small kitchen garden, and when your principal crops should be sown.

D.

(SPECIAL.) COMMERCE.—(FRIDAY AFTERNOON.)

1. Explain the difference between single and double entry.
 2. Explain the words debtor, creditor, to, by, balance, stock.
 3. What is the use of the Ledger? How is it divided?
 4. What is the difference between the Waste-book and the Journal?
-
5. What are indigo, madder, and turmeric?
 6. How do you readily distinguish hard from soft water?
 7. What changes take place in the grain when barley is malted?

* Owing to an oversight, the questions 45-54 were not delivered to the candidates.

8. In brewing at high temperatures a light yeast comes to the top : in brewing at low temperatures a heavy yeast falls to the bottom. What is the reason of the difference ?
 9. Some weak spirit is put into a bladder and hung up. Does it become weaker or stronger ?
 10. Describe the manufacture of vinegar. If vinegar be adulterated with sulphuric acid, how may the adulteration be detected ?
 11. Describe the chemical changes that take place in making cider. What points have to be attended to to make the cider good ?
 12. Explain the nature and use of mordants in dyeing. What is the use of *ageing* a mordanted cloth ?
 13. What is the essential composition of a soap ?
 14. How would you detect the following adulterations : copper in green pickles, Scheele's-green in green-coloured bonbons, gypsum in flour, alum in bread, sawdust coloured with sassafras in ground ginger ?
 15. How would you determine the quantity of real spirit in gin and in port-wine ?
 16. When bread is made by mixing carbonate of soda and muriatic acid with the flour, how do these substances act ? How far is the final result the same as if the bread had been made with yeast ? What precautions may be taken to secure that the muriatic acid used for this purpose shall not contain arsenic ?
-
17. In the first steam-engines a piston within a cylinder was driven up by the elastic force of steam : how was the downward motion of the piston effected, and what would be the pressure upon it ?
 18. Describe the principal contrivances for converting the reciprocating motion of the piston into other modes of motion.
 19. What is the difference between a *high* and a *low*-pressure engine ?
 20. What is the effect of the *condenser* in a common engine ? and why are not railway engines constructed with condensers ?
 21. What is done with the steam in a railway engine after it has moved the piston ?
 22. Describe the principle and action of the *governor* in a common engine ?
 23. What is the advantage of a *fly-wheel* in a steam-engine, or any other machinery ? Why is a fly not required in a locomotive ?
 24. Describe the common *slide-valve* and its action.
 25. How is the *slide-valve* commonly worked ?—explain the movement of the contrivance which works it.

26. What is meant by working a steam-engine "*expansively*"?
 27. Describe the safety-valve of a steam-boiler. Is there any danger of its not acting effectually?
 28. What are the disadvantages of over-filling a steam-boiler?
-
29. What nations in Europe are most engaged in exporting their own agricultural products, what nations in exporting their own manufactures, and what nations in the carrying trade?
 30. From what parts of the world are the chief articles in a druggist's shop imported?
 31. Whence do we obtain our chief supplies of the following articles, or the materials for making them: soap, candles, sugar, shoes, cloth, hats, gloves, penknives, lucifer-matches, hair-brushes and silks?
 32. What is the trade of the Levant?
 33. Where are the chief seats of the manufacture of glass in this country, and what has placed the manufacture there?
 34. Norwich was once our chief manufacturing town. What has carried the bulk of our manufactures to the opposite coast?
 35. Where are needles, pins, razors, and muskets manufactured respectively?
-
36. Why is a spade an article of value? and why is a silver spoon of more value than a spade?
 37. Why are some labourers paid higher than others?
 38. Mention some instances of the advantages of division of labour.
 39. If wheat falls to half its price, ought bread to fall in the same proportion?
 40. What is the effect upon prices if a new mine is discovered?
-

D.

(SPECIAL.) THE ARTS.*—(FRIDAY AFTERNOON.)

1. Enumerate the kinds of timber chiefly used in building, and describe the leading characteristics of each.
2. Which are the most durable kinds of timber :—
 1. When exposed to the action of the weather ;
 2. When protected from wet, but in a free circulation of air ;
 3. When constantly immersed in water or in wet soil ?

* "This will embrace the useful and decorative arts. It will be understood that what are called the Fine Arts hardly enter into the scope of these examinations, except so far as drawing or music form part of general education."—*Extract from Notice III.*

3. Describe Kyan's process for preserving timber.
 4. What is the composition of concrete, and for what purposes is it best applied?
 5. How are bricks made?
 6. What are the principal differences of character between wrought and cast iron? For what purposes is cast iron best adapted?
 7. Is there any objection to the combination of iron and stone in buildings? Point out the relative merits of tiles and slates for roofing.
 8. Is there any objection to the use of zinc for the purpose?
-

9. What is the best form to give to a cast-iron girder?
 10. Should a cast-iron column be solid or hollow, and why? Is there any analogy in natural forms (animal, vegetable) to assist in determining the answer?
 11. What is meant by a trussed, and what by a hipped, roof? Illustrate your answer by a diagram.
 12. What are the different methods of bonding in building a brick wall?
 13. Draw diagrams to illustrate half-lapping, tenon and mortice, and dovetailing, and explain the principle of the construction.
 14. Draw a kingpost or a queenpost roof, and explain the mechanical action of each part. What advantage, in point of convenience, has the queenpost roof?
 15. Draw a five-bar gate, and show how the cross-bar ought to be placed, and why.
 16. Explain the action of the parts of an arch. Explain the terms voussoir, intrados or soffit, span, and rise.
 17. What is the difference between single-framed and double-framed floors?
 18. What is the best method of obtaining a sufficient foundation for a large building on a bed of wet sand or on a marsh?
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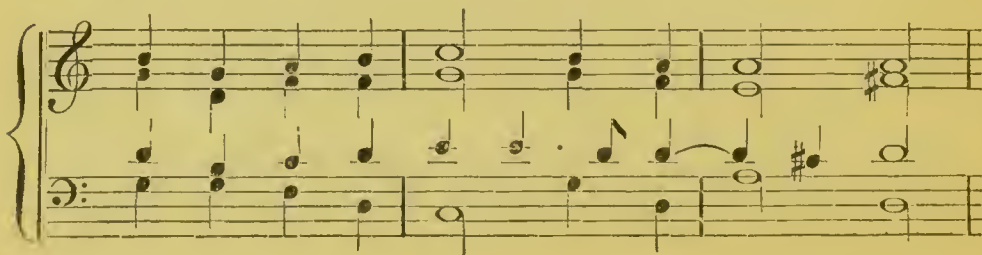
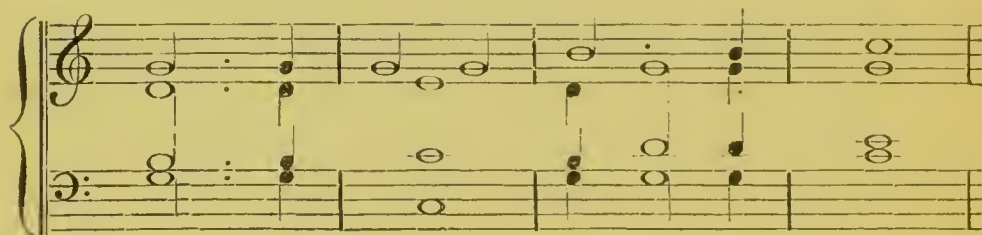
19. What is the standard thickness of brickwork? How do you reduce any other thickness to this in measuring?
 20. How many standard rods of brickwork are there in a wall 60 feet long, 12 feet high, and 3 bricks thick?
 21. What is called true pitch? It is common with builders, if the roof be of true pitch, to increase the breadth by half, in order to find the girt over both sides: how nearly is this correct?
-

22. Draw the pedestal, column, and entablature of the Doric, Ionic, or Corinthian order, and name all the parts.
 23. Draw a Decorated or a Perpendicular window.
 24. Mention the styles of Gothic Architecture in chronological succession, with the approximate date of each.
 25. Explain the following terms, and illustrate them by drawings, mouldings, cavetto, ogee, cyma recta.
 26. Illustrate by drawing the difference between convex and concave mouldings. Which is best suited to carry a heavy weight, and which to carry a light weight?
 27. Illustrate by a rough sketch the most striking distinctions between the features of a Greek temple and those of a Gothic church, especially as regards the direction of the principal lines.
 28. What are the principal features of Norman Architecture?
-
29. Show by drawings the different styles of ornament suited to wood, stone, iron, gold.
 30. What is the real use of flowers or other natural objects in the ornament of flat fabrics, such as carpets? Is the hexagon or the square the best element of composition? Give a reason for your answer.
 31. Draw a pattern for a carpet or a paper, using either geometrical forms or any flower.
 32. Which is the most retiring, and which the most advancing colour?
 33. "Good architecture does not conceal construction, but beautifies it."
"Construction should vary with the material employed, and the design should be adapted to the material employed."
Illustrate these principles by examples of good or bad design.
 34. Draw a design for a railing or balustrade in wood, iron, and stone.
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D.

MUSIC.—(FRIDAY AFTERNOON.)

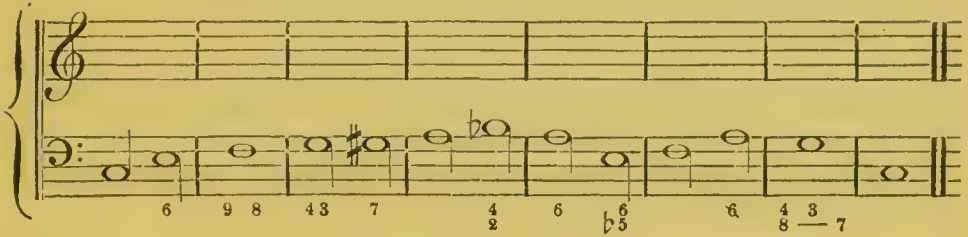
1. How many *major thirds* does every major scale contain?
2. Between what notes of a major scale is the *tritone*, or pluperfect fourth, included?
3. What is the third to (above) *Do* (or *C*)?—the fourth to *Si* (or *B*)?—the fifth to *La* (or *A*)?
4. What interval is formed by *Re—Fa* \sharp (or *D—F* \sharp)?—by *Si* \flat —*Re* (or *B* \flat —*D*)?—by *La—Mi* \flat (or *A—E* \flat)?
5. What is a *tetrachord*?
6. Are the two tetrachords into which every kind of scale is divisible always *alike* in construction?
7. What is the principal difference between a *major* and a *minor* scale?
8. Explain the difference between *common* and *triple* time, and give an example of each.
9. Explain what is meant by *compound* time, and give an example of it.
10. Write a *measure*, or *bar*, in each of the kinds of time indicated by the following signatures:— $\frac{3}{4}$, $\frac{6}{8}$, $\frac{2}{4}$, *C*.
11. Explain the following musical terms: *Duet*, *Round*, *Du Capo*, *Pause*, *Bass*, *Slur*, *Stave*, *Score*.
12. Write a list of the principal *musical composers* with whose names you are acquainted, in approximate chronological order.
13. Put the following passage into *score*, for Treble, Alto, Tenor, and Bass.



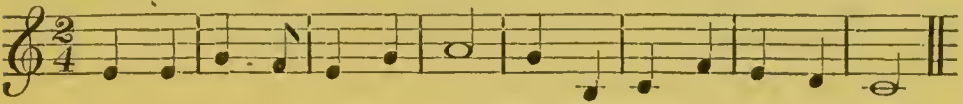
14. Transpose the following passage into the scale or key of La, or A.



15. Add three parts to the following figured Bass.



16. Harmonize the following passage.



D.

DRAWING.—(FRIDAY.)

One Hour allowed for each Section.

I. FREE-HAND DRAWING.

From one of the examples prepared by the Department of Science and Art connected with Her Majesty's Committee of Council on Education.

Directions for the Student.—The student is required to copy in pencil the figure on the following page, increasing the scale so that A B is enlarged to C D.* Precise imitation and clearness of outline are necessary. No instruments or means of measurement of any kind will be allowed.

II. FROM SOLIDS.

1. Group a few blocks of wood according to your own taste, and draw them.
2. Draw an egg.

(N.B. The blocks of wood and the egg were given at the time.)

III. FROM MEMORY.

Draw from memory one of the following :—A table, a cup and saucer, a door, a gate, a cart, a boat, an anchor, a tree, a flower, a horse, or a dog.

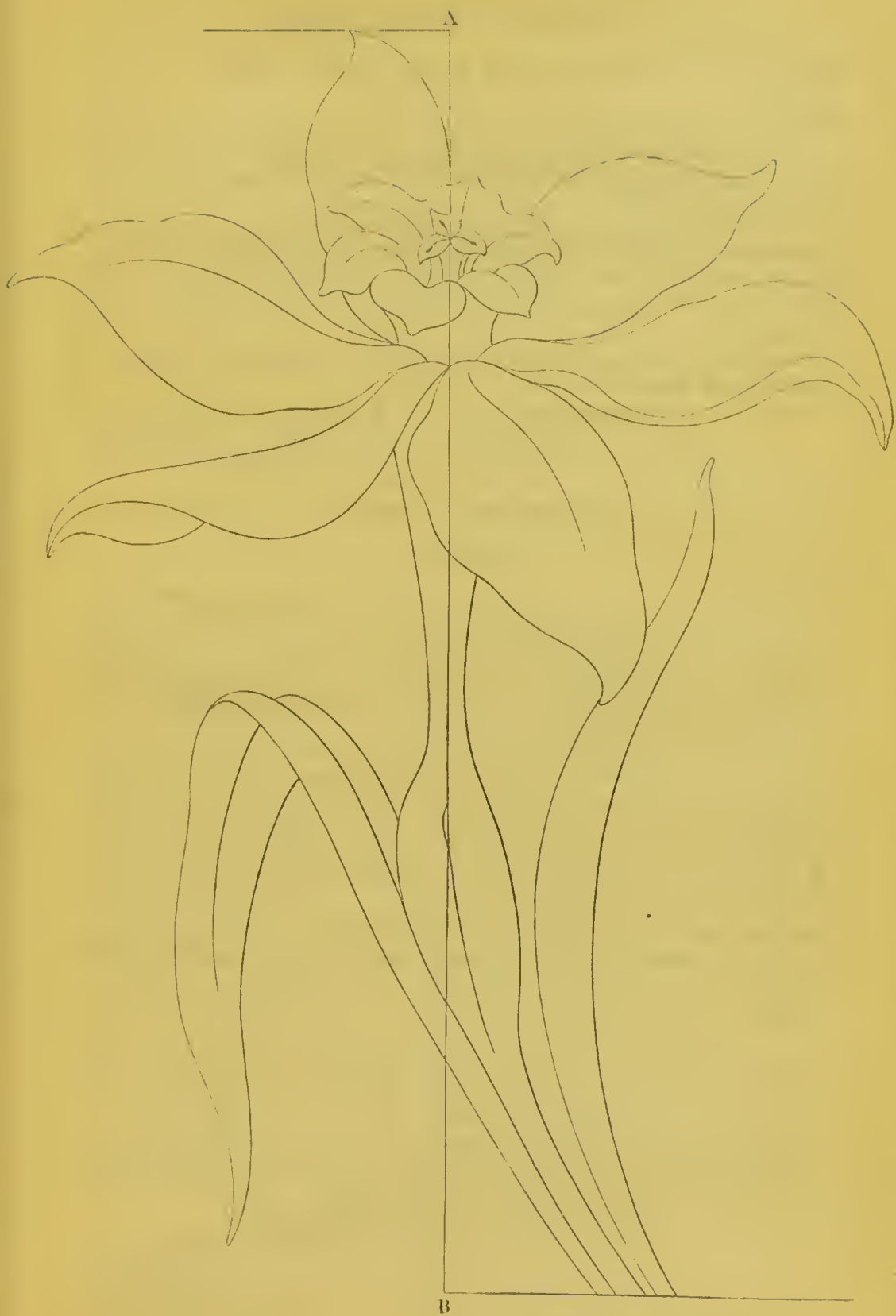
IV. PRACTICAL GEOMETRY.

1. Draw a straight line, and then show how to draw another line perpendicular to it at one end.
2. Draw a segment of a circle less than a semicircle, and show how to find its centre.
3. Inscribe an equilateral triangle in a circle.
4. Divide a given line into five equal parts with the scale and parallel rulers.
5. Divide a circle into three equal parts by lines drawn from the centre.
6. Show how to draw parallel lines without parallel rulers.

V. PERSPECTIVE.

1. Draw a chess-board in perspective.
2. Draw a flight of steps in perspective.
3. Draw a circle horizontally in perspective.
4. Draw the elevation of a cottage or of a colonnade, and then draw the same in perspective.

* Enlarged by about one-third in addition to the original size (C D being to A B as 4 to 3).



AWARD OF PRIZES

(ADDRESSED TO EACH CANDIDATE).

SIR,

The Committee beg to forward to you the Report of the Government Inspectors, and to inform you that they have awarded the prizes in conformity with it.

In the Report the successful candidates were designated by the numbers of the seats occupied by them during the examination, which numbers were affixed to their respective papers. Their names and the names of their masters have been added by the Committee.

A further announcement will be made as to the time and mode of distributing the prizes.

J. KENNAWAY,
President.

T. D. ACLAND,
H. MITCHELL,
W. H. ROBERTS, } Secretaries.

REPORT.

GENTLEMEN,

London, 1st July, 1857.

We have the honour to submit to you our Report on the papers worked by the candidates examined at Exeter, on the 16th June and the three following days. This Report has been constructed after carefully collecting the results arrived at by ourselves and the other examiners on the papers referred to each.

We find that several of the papers worked in the subjects grouped under A, B, C, exhibit marks of good ability and careful instruction. We have recommended that under each of these heads the first class consist of all those candidates who have distinguished themselves particularly above the rest, but that a difference be made between the prizes to be awarded to them. We have placed all those candidates in the second class who appeared to us to be, on the whole, well instructed for their age in the subjects under which their names are inserted. And we have added a list of candidates, who appear to deserve mention, but not in the same degree to deserve a reward.

In the subjects grouped under D, we find very few papers that can be called good; and have come to the conclusion, that either very little attention is paid to these subjects in the schools, or that the methods of teaching are faulty.

In conclusion we have to recommend, that the prize for general excellence among the seniors be given to No. 11; and the similar prize among the juniors, be given to No. 50.

We have the honour to be, Gentlemen,

Your obedient servants,

F. TEMPLE.

J. BOWSTEAD.

LIST OF SUCCESSFUL CANDIDATES.

SPECIAL PRIZES AWARDED FOR GENERAL EXCELLENCE.

No. at Examina- tion.	Name.	Age.	Master and Residence.	Value of Prizes, in Money or otherwise.
SENIOR.				
11.	Thomas Stocker	16	Dr. H. H. Drake, <i>St. Austell</i>	£10 0 0
JUNIOR.				
50.	Henry J. Rawle	14	Mr. Templeton, <i>Exeter</i>	10 0 0

Department A—Religious Knowledge.

FIRST CLASS—SENIORS.

First Division.

17.	M. Edward Mills ..	17	Rev. S. Stead, <i>Probus</i>	5 0 0
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Second Division.

36.	Ebenezer Lethbridge	16	Rev. P. Holmes, <i>Plymouth</i>	2 10 0
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FIRST CLASS—JUNIORS.

First Division.

85.	Joseph Pulliblack ..	13	Rev. H. M. Crowther, <i>Kingsbridge</i>	5 0 0
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Second Division.

42.	Samuel J. Daw	13	Mr. Templeton, <i>Exeter</i> , and Mr. Harland, <i>Torquay</i>	2 10 0
50.	Henry J. Rawle	14	Mr. Templeton, <i>Exeter</i>	2 10 0

SECOND CLASS—SENIORS.

2.	William Vieary	17	Mr. Fewings, <i>Exeter</i>	0 10 0
			Mr. Nicholls, <i>Dawlish</i>	0 10 0
7.	Robert J. D. Burnie	15	Rev. S. Stead, <i>Probus</i>	0 10 0
13.	William Drew	16	Mr. Templeton, <i>Exeter</i>	0 10 0
16.	John Oliver	16	Rev. S. Stead, <i>Probus</i>	0 10 0
23.	Thomas L. Seaton ..	15	Mr. Corner, <i>Wellington</i>	0 10 0
32.	Thomas Slater	17		

SECOND CLASS—JUNIORS.

46.	Arthur J. Newman ..	13	Dr. Ridgway, <i>Exeter</i>	0 10 0
47.	Samuel Waymouth ..	13	Mr. Paige, <i>Torquay</i>	0 10 0
56.	Thomas W. Smith ..	14	Mr. Templeton, <i>Exeter</i>	0 10 0
60.	Samuel W. Clark ..	12	Mr. Foweraker, <i>Exeter</i>	0 10 0
62.	Thomas Perkins ..	14	Mr. Dommett, <i>Exeter</i>	0 10 0
65.	William H. Coaker ..	12	Mr. Francis Young, <i>Kingsbridge</i>	0 10 0
66.	William Salter	13	Mr. Dommett, <i>Exeter</i>	0 10 0
75.	Thomas T. Anthony	14	Rev. H. M. Crowther, <i>Kingsbridge</i>	0 10 0
80.	E. R. K. Northway ..	13	Mr. Foweraker, <i>Exeter</i>	0 10 0
81.	Charles E. Gifford ..	14	Rev. S. C. Clarke, <i>Launceston</i> ..	0 10 0
83.	John M. Sweetman ..	14	Mr. Corner, <i>Wellington</i>	0 10 0
107.	Robert Farrant	14	Mr. Corner, <i>Wellington</i>	0 10 0

COMMENDED—SENIORS.

1.	Robert Earle	15	Mr. Paige, <i>Torquay</i> .	
6.	Charles F. Rew	15	Mr. Templeton, <i>Exeter</i> .	
8.	John W. Piper	15	Mr. Dommett, <i>Exeter</i> .	
10.	Arthur F. S. Pasmore	15	Dr. Ridgway and Rev. H. Newport, <i>Exeter</i> .	
20.	Francis Collins	16	Mr. Templeton, <i>Exeter</i> .	

COMMENDED—JUNIORS.

38.	James Townsend ..	14	Mr. Dommett, <i>Exeter</i> .	
41.	Henry J. Broad	14	Mr. Paige, <i>Torquay</i> .	
49.	Francis E. Gladstone	12	Mr. Menneer, <i>St. Marychurch</i> .	
54.	George Wreford	14	Mr. Dommett, <i>Exeter</i> .	
98.	George Paekman ..	12	Mr. Dommett, <i>Exeter</i> .	
100.	William J. Body ..	14	Mr. Corner, <i>Wellington</i> .	
114.	Charles E. Isaacs ..	14	Mr. Dommett, <i>Exeter</i> .	

Department B—Language.

FIRST CLASS—SENIORS.

First Division.

No. at Examination.	Name.	Age.	Master and Residence.	Value of Prizes, in Money or otherwise.
17.	M. Edward Mills ..	17	Rev. S. Stead, <i>Probus</i>	£5 0 0
36.	Ebenezer Lethbridge	16	Rev. P. Holmes, <i>Plymouth</i>	5 0 0

Second Division.

11.	Thomas Stoeker ..	16	Dr. H. H. Drake, <i>St. Austell</i> ..	2 10 0
30.	A. Woodley Croft ..	16	Rev. P. Holmes, <i>Plymouth</i>	2 10 0

FIRST CLASS—JUNIORS.

First Division.

50.	Henry J. Rawle ..	14	Mr. Templeton, <i>Exeter</i>	5 0 0
85.	Joseph Pulliblack ..	13	Rev. H. M. Crowther, <i>Kingsbridge</i>	5 0 0

Second Division.

59.	James Carpenter ..	14	Rev. E. Speneer, <i>Tavistock</i> ..	2 10 0
107.	Robert Farrant ..	14	Mr. Corner, <i>Wellington</i>	2 10 0

SECOND CLASS—SENIORS.

6.	Charles F. Rew ..	15	Mr. Templeton, <i>Exeter</i>	0 10 0
7.	Robert J. D. Burnie .	15	Mr. Nicholls, <i>Dartlish</i>	0 10 0
10.	Arthur F. S. Pasmore	15	Dr. Ridgway and Rev. H. Newport, <i>Exeter</i>	0 10 0
13.	William Drew ..	16	Rev. S. Stead, <i>Probus</i>	0 10 0
16.	John Oliver ..	16	Mr. Templeton, <i>Exeter</i>	0 10 0

SECOND CLASS—JUNIORS.

41.	Henry J. Broad ..	14	Mr. Paige, <i>Torquay</i>	0 10 0
42.	Samuel J. Daw ..	13	Mr. Templeton, <i>Exeter</i> , and Mr. Harland, <i>Torquay</i>	0 10 0
46.	Arthur J. Newman ..	13	Dr. Ridgway, <i>Exeter</i>	0 10 0
47.	Samuel Waymouth ..	13	Mr. Paige, <i>Torquay</i>	0 10 0
56.	Thomas W. Smith ..	14	Mr. Templeton, <i>Exeter</i>	0 10 0
61.	Frank Paige ..	13	Mr. Paige, <i>Torquay</i>	0 10 0
62.	Thomas Perkins ..	14	Mr. Dommett, <i>Exeter</i>	0 10 0
66.	William Salter ..	13	Mr. Dommett, <i>Exeter</i>	0 10 0
75.	Thomas T. Anthony	14	Rev. H. M. Crowther, <i>Kingsbridge</i>	0 10 0
77.	William Davies ..	14	Rev. W. H. Griffith and Rev. T. Clark, <i>Taunton</i>	0 10 0
81.	Charles E. Gifford ..	14	Rev. S. C. Clarke, <i>Launceston</i> ..	0 10 0
110.	Edwin A. Lawton ..	13	Wesleyan College, <i>Taunton</i> ..	0 10 0

COMMENDED—SENIORS.

1.	Robert Earle ..	15	Mr. Paige, <i>Torquay</i> .
2.	William Vicary ..	17	Mr. Fewings, <i>Exeter</i> .
3.	John J. Geach ..	16	Mr. Paige, <i>Torquay</i> .
12.	Alfred W. Risdon ..	15	Mr. Templeton, <i>Exeter</i> .
19.	Joseph Aekland ..	15	Rev. W. H. Griffith and Rev. T. Clark, <i>Taunton</i> .
20.	John Born ..	15	Mr. Templeton, <i>Exeter</i> .
29.	Gottlob Sehreiner ..	15	Wesleyan College, <i>Taunton</i> .
32.	Thomas Slater ..	17	Mr. Corner, <i>Wellington</i> .

COMMENDED—JUNIORS.

49.	Francis E. Gladstone	12	Mr. Menneer, <i>St. Marychurch</i> .
54.	George Wreford ..	14	Mr. Dommett, <i>Exeter</i> .
64.	William A. Edwards	13	Mr. Templeton, <i>Exeter</i> .
65.	William H. Coaker	12	Mr. Francis Young, <i>Kingsbridge</i> .
73.	William Frost ..	12	Mr. Corner, <i>Wellington</i> .
83.	John M. Sweetman ..	14	Mr. Corner, <i>Wellington</i> .
87.	Sidney Jones ..	14	Wesleyan College, <i>Taunton</i> .
100.	William J. Body ..	14	Mr. Corner, <i>Wellington</i> .
114.	Charles E. Isaacs ..	14	Mr. Dommett, <i>Exeter</i> .
116.	Olinthus R. Barnicott	14	Wesleyan College, <i>Taunton</i> .

Department C—Mathematics.

FIRST CLASS—SENIORS.

First Division.

No. at Examina- tion.	Name.	Age.	Master and Residence.	Value of Prizes, in Money or otherwise.
11.	Thomas Stoeker	16	Dr. H. H. Drake, <i>St. Austell</i> ..	£5 0 0
30.	A. Woodley Croft	16	Rev. P. Holmes, <i>Plymouth</i>	5 0 0

Second Division.

36.	Ebenezer Lethbridge	16	Rev. P. Holmes, <i>Plymouth</i>	2 10 0
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FIRST CLASS—JUNIORS.

First Division.

50.	Henry J. Rawle	14	Mr. Templeton, <i>Exeter</i>	5 0 0
108.	John Grimes	14	Wesleyan College, <i>Taunton</i>	5 0 0

Second Division.

47.	Samuel Waymouth	13	Mr. Paige, <i>Torquay</i>	2 10 0
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SECOND CLASS—SENIORS.

1.	Robert Earle	15	Mr. Paige, <i>Torquay</i>	0 10 0
3.	John J. Geach	16	Mr. Paige, <i>Torquay</i>	0 10 0
17.	M. Edward Mills	17	Rev. S. Stead, <i>Probus</i>	0 10 0
19.	Joseph Ackland	15	Rev. W. H. Griffith and Rev. W. Clark, <i>Taunton</i>	0 10 0
29.	Gottlob Sehreiner	15	Wesleyan College, <i>Taunton</i>	0 10 0

SECOND CLASS—JUNIORS.

38.	James Townsend	14	Mr. Dommett, <i>Exeter</i>	0 10 0
42.	Samuel J. Daw	13	Mr. Templeton, <i>Exeter</i> , and Mr. Harland, <i>Torquay</i>	0 10 0
61.	Frank Paige	13	Mr. Paige, <i>Torquay</i>	0 10 0
62.	Thomas Perkins	14	Mr. Dommett, <i>Exeter</i>	0 10 0
65.	William H. Coaker	12	Mr. Francis Young, <i>Kingsbridge</i>	0 10 0
66.	William Salter	13	Mr. Dommett, <i>Exeter</i>	0 10 0
81.	Charles E. Gifford	14	Rev. S. C. Clarke, <i>Launceston</i> ..	0 10 0
83.	John Sweetman	14	Mr. Corner, <i>Wellington</i>	0 10 0
85.	Joseph Pulliblack	13	Rev. H. M. Crowther, <i>Kingsbridge</i>	0 10 0
107.	Robert Farrant	14	Mr. Corner, <i>Wellington</i>	0 10 0

COMMENDED—SENIORS.

2.	William Vieary	17	Mr. Fewings and Mr. Dommett, <i>Exeter</i> .
8.	John W. Piper	15	Mr. Dommett, <i>Exeter</i> .
16.	John Oliver	16	Mr. Templeton, <i>Exeter</i> .
26.	Francis Collins	16	Mr. Templeton, <i>Exeter</i> .
27.	Gabriel Williams	15	Mr. Corner, <i>Wellington</i> .

COMMENDED—JUNIORS.

41.	Henry J. Broad	14	Mr. Paige, <i>Torquay</i> .
49.	Francis E. Gladstone	12	Mr. Menneer, <i>St. Marychurch</i> .
54.	George Wreford	14	Mr. Dommett, <i>Exeter</i> .
59.	James Carpenter	14	Rev. E. Spencer, <i>Tavistock</i> .
67.	H. Brice Birmingham	13	Mr. Corner, <i>Wellington</i> .
87.	Sidney Jones	14	Wesleyan College, <i>Taunton</i> .
100.	William J. Body	14	Mr. Corner, <i>Wellington</i> .
116.	Olinthus R. Barnieott	14	Wesleyan College, <i>Taunton</i> .

Department D—Science and Art.

FIRST CLASS—SENIOR.

No. at Examina- tion.	Name.	Age.	Master and Residence.	Value of Prizes, in Money or otherwise.
11.	Thomas Stocker..	16	Dr. H. H. Drake, <i>St. Austell</i>	£5 0 0

FIRST CLASS—JUNIOR.

50.	Henry J. Rawle	14	Mr. Templeton, <i>Exeter</i>	5 0 0
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SECOND CLASS—SENIOR.

3.	John J. Geach	16	Mr. Paige, <i>Torquay</i>	0 10 0
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SECOND CLASS—JUNIOR.

56.	Thomas W. Smith	14	Mr. Templeton, <i>Exeter</i>	0 10 0
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COMMENDED—FOR DRAWING.

4.	George Basset	15	Mr. Dommett, <i>Exeter</i> .
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COMMENDED—FOR MUSIC.

60.	Samuel W. Clarke	„	Mr. Foweraker, <i>Exeter</i> .
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RESOLUTIONS

OF

SCHOOLMASTERS AND TEACHERS PRESENT AT THE
EXAMINATION.

AT a meeting of the Schoolmasters and Teachers present at the Examination, June 18, 1857, Mr. Templeton, M.A., in the Chair, it was unanimously resolved—

That the thanks of this meeting are due to Sir John Kennaway, Bart., President; the Right Worshipful the Mayor; Messrs. Passmore and Hussey, Treasurers; T. D. Aeland, Esq., Secretary; the Rev. H. Mitchell, Assistant Examination-Secretary, and other members of the Committee, for their liberality and zeal in promoting this scheme of Examination.

That a vote of thanks be presented to the Rev. F. Temple, J. Bowstead, Esq., the Rev. Chancellor Harington, Professor Max Müller, and other Examiners, for the laborious duties which they have undertaken on the present occasion, and the great accessibility and courtesy shown by them to those engaged in tuition.

That a Memorial be presented to the Universities of Oxford and Cambridge upon the subject.

MEMORIAL

Addressed to the Vice-Chancellor and other Members of the Councils of the Universities of Oxford and Cambridge.

WE, the undersigned Schoolmasters and Teachers from Somerset, Devon, and Cornwall, now assembled in Exeter during the Public Examination for Prizes offered by several gentlemen who take a deep interest in the Education of the Middle Classes, beg to memorialise your Body.

We are aware of the movement now being made at both Universities to connect them more closely with the Middle Classes by authorizing a system of Annual Examinations throughout the whole country, and giving the candidates who distinguish themselves an honorary title.

We know from experience in preparing our own pupils for the Examination now going on in Exeter, what a benefit it is to give to different middle-class schools a unity of action, and to boys a stimulus and an object to work for, which they never had before.

We therefore respectfully beg the Members of the Council of the University of Oxford to establish such Examinations, and to grant to successful candidates the title of A.A., or such other mark of distinction as the University may approve of.

(Signed) JAMES TEMPLETON, M.A., Exeter.
 S. M. RIDGWAY, LL.D., Exeter.
 EDMUND T. FOWERAKER, Cathedral Close School, Exeter.
 EDW. HY. SHORTO, " "
 THOMAS WM. SMITH, Timberscombe.
 WILLIAM W. HOLMAN, Cutcombe.
 JOHN JACKMAN, Moretonhampstead.
 HENRY MARTYR CROWTHER, M.A., St. John's College,
 Cambridge, Head Master of Kingsbridge School.
 EMANUEL DOMMETT, Head Master, Hele's School, Exeter.
 M. GUERITZ, M.A., Yealmlpton School.
 W. CORNER, Wellington.
 GEORGE DENNIS, Kentisbeare.
 H. S. YOUNG, Exeter.
 PHILIP PAIGE, Tor, Torquay.
 NICHOLAS MENNEER, St. Marychurch, Torquay.

PRIVATE ROOM FOR
EXAMINERS.

ENTRANCE

EXAMINERS'
TABLE
ON A PLATFORM
RAISED 2 FT

SECRETARY'S
TABLE

SEATS FOR

THE MASTERS

121 120 119

114 113 112 111

106 105 104 103

98 97 96 95

94 93 92 91

86 85 84 83

78 77 76 75

70 69 68 67

62 61 60 59

54 53 52 51

46 45 44 43

38 37 36 35

30 29 28 27

22 21 20 19

14 13 12

7 6 5

SEAT

118 117 116 115

110 109 108 107

102 101 100 99

SEPARATE ROOM
FOR READING ALOUD

PASSAGE

90 89 88 87

82 81 80 79

74 73 72 71

66 65 64 63

58 57 56 55

50 49 48 47

42 41 40 39

34 33 32 31

26 25 24 23

18 17 16 15

SEAT
11 10 9 8
DESK

4 3 2 1
DESK

SEAT

PASSAGE

RAISED SEAT.

20 FEET

10

SCALE

0

A SPREAD 11TH.

PLAN OF EXAMINATION ROOM, EXETER. JUNE 16-19, 1857.

LOCAL ARRANGEMENTS.

It will probably save trouble to others hereafter to state the arrangements made for the assembly of the Candidates at the Examination.

Three respectable innkeepers undertook to provide candidates with single beds and three meals per day, attendance included, at the several charges of 5s. 6d., 6s., and 6s. 6d. each per day. The Committee gave this information to the Candidates, incurring no further responsibility, and leaving them to make their own arrangements. Many, as might have been expected, were received in private families. Every Candidate was requested on his arrival to report his place of residence to the Secretary, from whom he learned the number by which he would be distinguished during the Examination.

Two spacious rooms were engaged for the Examination at the Clarence Hotel. One was used for the examination on paper, the other for the examination in reading aloud. With a view to remove all air of mystery, and to satisfy public interest, the friends of the youths and a few other persons interested in the examination were allowed access to both rooms. Considering that it was the first experiment of the kind, the advantages of this course predominated over the disadvantages; in future it will probably be desirable to confine the attendance of strangers to the room in which the examination *viva voce* is being conducted.

A plan of the arrangement of the room devoted to paper work is subjoined, as it may furnish some useful hints. It was a back room not opening into a street, lofty, well lighted, with a northern aspect. The candidates were placed in rows facing the Examiner, who was on an elevated platform, with a raised seat, at one end of the room. The senior candidates at the end furthest from the Examiner. The candidates had the light on their left hand, a point not to be disregarded, especially with reference to an examination in Drawing. There was an interval of nearly two clear feet between each candidate and his neighbour: no two candidates from the same school sitting side by side—an arrangement easily effected, by giving even numbers to the candidates from the most numerous schools, amounting to about half the whole number entered for examination, and filling up the odd numbers between from other schools. The desks were made of two deals placed on simple tressels, and covered with blue serge. Each boy's number was nailed to the desk by the side of his inkstand, 120 penny inkstands having been placed at the proper intervals, and prevented from falling by an india-rubber band and two tin tacks. The Candidates were supplied with half-sheets of foolscap paper, ruled on one page; and they were desired

to write on the ruled page only, leaving on the left hand a margin of an inch on which the number of each question was to be written. At the head of every page the Candidate's own number was to be written, under the penalty that the answers would not be looked at if compliance with this condition were neglected.

The half-sheets, at the end of each part of the Examination, were to be brought by each boy to the Secretary's table, and were immediately arranged in the order of the numbers held by the boys respectively, placed between two pasteboards of the size of foolscap with two india-rubber bands, marked with the name of the subject, and delivered to the Examiners. Attention to uniformity in a few simple matters saves much time and trouble in looking over the answers to the questions, and comparing the results.

The entire expense incurred at the Examination is stated below :—

	£.	s.	d.
Hire of examination room	5	5	0
Fittings (the timber being lent by Mr. Moore, builder) ..	7	11	0
Blue Serge, to cover desks, 120 yds. at 12 $\frac{3}{4}$ d. £6 7 6	6	7	6
Resold at 8d.	4	0	0
	<hr/>		
	2	7	6
Sundry articles of stationery, total, about	7	0	0
Printing of examination papers	15	0	0
Printing and Posting Prize-List	3	0	0
Sundry Payments, including Doorkeeper	2	0	0
	<hr/>		
	£42	3	6